

**DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ)**  
Environmental Assessment

**PERMITTING AND COMPLIANCE DIVISION**  
Water Protection Bureau

**Name of Project:** Stillwater East Boulder Mine

**Type of Project:** Renewal of Montana Pollutant Discharge Elimination System (MPDES) permit MT0026808 for treated wastewater discharge from an underground platinum mine

**Location of Project:** Latitude 45°30'45"N, Longitude 110°05'14"W

**City/Town:** Approximately 32 miles south of Big Timber, Montana

**County:** Sweet Grass

**Description of Project:** Stillwater Mining Company (SMC) is the owner and operator of the Stillwater East Boulder Mine (hereinafter Facility), an underground platinum and palladium mine. SMC was first authorized to discharge under MPDES Permit No. MT0026808 on April 14, 1988. The discharge permit was renewed and reissued on August 1, 2000 and expired on January 21, 2005. SMC submitted an application for renewal of its wastewater discharge permit on July 31, 2005, and it was administratively extended.

DEQ has prepared a draft permit and fact sheet for the issuance of this renewed permit. The draft permit authorizes surface and ground water mixing zones for discharges of treated adit wastewater to the East Boulder River and alluvial ground water ultimately discharging to the East Boulder River. It incorporates technology-based effluent limitations (TBEL) required under Section 301 of the federal Clean Water Act (CWA) and water quality-based effluent limitation (WQBEL) required under Section 302 of the federal CWA. WQBELs are based on Montana water quality standard promulgated in ARM 17.30.601 – 670 and Montana's nondegradation policy set forth in 75-5-303, MCA and ARM 17.30.701-715. The draft permit also contains monitoring and reporting requirements that are sufficient for the DEQ to determine compliance with the effluent limitation and other conditions of the permit.

The environmental impact of the mine was analyzed in the East Boulder Mine Project Final Environmental Impact Statement (FEIS) (prepared by Montana Department of State Lands, et al., May 1992). A more recent environmental analysis was prepared by the DEQ and the US Forest Service to analyze the impacts of various water management alternatives at the SMC East Boulder Mine (Final Environmental Impact Statement for Stillwater Mining Company's Revised Water Management Plans and Proposed Ranch LAD, USDA Forest Service and DEQ, August 1, 2012). Mitigation measures and alternatives that were considered in the EIS and approved have been incorporated into the Facility's operating permits issued by DEQ and the plan of operations approved by the US Forest Service, Gallatin National Forest.

## Alternatives:

**No Action Alternative** – Under the no action alternative the DEQ would not reissue the discharge permit. A permit may only be denied or terminated for cause as provided in ARM 17.30.1363. Cause for termination include: noncompliance by the permittee with any permit condition; the permittee failure in the application or during the permit issuance process to fully disclose all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; a determination that the permittee's activity endangers human health or the environmental and can only be regulated to an acceptable level by permit modification or termination; or a change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit.

**Proposed Action Alternative** - The proposed action is to issue the MPDES permit. No alternatives to the proposed action were considered.

## Applicable Regulations:

ARM Title 17, Chapter 30, Sub-chapter 5 - Mixing Zones in Surface and Ground Water.

ARM Title 17, Chapter 30, Sub-chapter 6 - Surface Water Quality Standards.

ARM Title 17, Chapter 30, Sub-chapter 7 - Nondegradation of Water Quality.

ARM Title 17, Chapter 30, Sub-chapter 12 – MPDES Effluent Limitations and Standards

ARM Title 17, Chapter 30, Sub-chapter 13 – MPDES - Permits

Montana Water Quality Act, Section 75-5-101, et. seq., MCA.

**Summary of Issues:** Excess water from the mine are treated and discharged under the terms and conditions of the Facility's MPDES permit. The DEQ proposes to issue the discharge permit incorporating additional effluent limits for discharge to ground water. The discharge permit also incorporates the wasteload allocation (WLA) included in the September 11, 2009 Boulder River Total Maximum Daily Load (TMDL).

**Benefits and Purpose of Action:** The permit ensures adequate treatment of wastewater prior to discharge and includes monitoring and reporting requirements for the quality and quantity of effluent discharged from the facility.

## Affected Environment & Impacts of the Proposed Project:

Y = Impacts may occur (explain under Potential Impacts).

N = Not present or No Impact will likely occur.

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: Are soils present which are fragile, erosive, susceptible to compaction, or unstable? Are there unusual or unstable geologic features? Are there special reclamation considerations?	[N] The discharge of treated wastewater to surface or ground water will not have an effect on geology or soils. The permittee has proposed to land apply mine wastewater at the East Boulder Mine site. The permit requires development and compliance with best management practice to minimize runoff and minimize or eliminate any impacts to soils. No additional impacts are expected. See Section 4.2 of the permit fact sheet for additional discussion.

<b>IMPACTS ON THE PHYSICAL ENVIRONMENT</b>	
<b>RESOURCE</b>	<b>[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES</b>
2. WATER QUALITY, QUANTITY AND DISTRIBUTION: Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?	<p>[N] The permit contains WQBELs that are based on Montana water quality standard promulgated in ARM 17.30.601 – 670 and Montana’s nondegradation provisions set forth in 75-5-703, MCA and ARM 17.30.701-715. WQBELs based on protection of existing water quality will maintain water quality at or close to pre-mine conditions. See Section 2.2 of the permit fact sheet for additional discussion.</p> <p>Pre-mine data indicates that copper is present in the receiving water at or slightly above current water quality standards. The Boulder River below the confluence with the East Boulder River is listed as impaired for chromium, copper, iron, lead, nickel, nitrite plus nitrate and total nitrogen. On September 11, 2009, EPA approved TMDLs for the Boulder River watershed including the East Boulder River. The approved TMDL includes waste load allocations (WLA) for the East Boulder Mine for copper, iron and lead. These values have been incorporated into the MPDES permit. See Section 2.2 of the permit fact sheet for additional discussion.</p>
3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?	[N] There are no activities regulated by the wastewater discharge permit that will affect air quality. No new construction will take place.
4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be significantly impacted? Are any rare plants or cover types present?	[N] There are no activities regulated by the wastewater discharge permit that will affect vegetation. No new construction will take place. See 1992 and 2012 FEIS for additional analysis and discussion.
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?	<p>[N] There are no activities regulated by the wastewater discharge permit that will affect wildlife or birds. To date, no direct discharge to the East Boulder River has occurred at Outfall 001. WQBELs will maintain aquatic habitat and aquatic life at pre-mine conditions.</p> <p>No new construction will take place. See 1992 and 2012 FEIS for additional analysis and discussion.</p>
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?	[N] There are no activities regulated by the wastewater discharge permit that will affect endangered, fragile, or limited resources. No new construction will take place. See 1992 and 2012 FEIS for additional analysis and discussion.
7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?	[N] There are no activities regulated by the wastewater discharge permit that will affect historic or archaeological sites. No new construction will take place. See 1992 and 2012 FEIS for additional analysis and discussion.
8. AESTHETICS: Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?	[N] There are no activities regulated by the wastewater discharge permit that will affect aesthetics or visual resources. No new construction will take place. See 1992 and 2012 FEIS for additional analysis and discussion.
9. LAND USE: (waste disposal, agricultural lands [grazing, cropland, forest lands, prime farmland], recreational lands [waterways, parks, playgrounds, open space, federal lands), access, commercial and industrial facilities [production & activity, growth or decline], growth, land-use change, development activity)	[N] The mine is located on an existing mine site on private mining claims and national forest land.
10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other activities nearby that will affect the project?	[N] See 1992 and 2012 FEIS for additional analysis and discussion.

<b>IMPACTS ON THE HUMAN ENVIRONMENT</b>	
<b>RESOURCE</b>	<b>[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES</b>
11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?	[N] There are no activities regulated by the wastewater discharge permit that will affect human health or safety. No new construction will take place. See 1992 and 2012 FEIS for additional analysis and discussion.
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	[N] The mine project is allowed under the Metal Mine Reclamation Act. Additions or alterations would be authorized under those statutes. The discharge permit would not add to or alter those activities.
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.	[N] No jobs would be created, moved or eliminated.
14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?	[N] Issuance (renewal) of the discharge permit has no effect on tax revenues.
15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?	[N] Issuance (renewal) of the discharge permit will not affect the demand for government services.
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	[N] The operation of the mine was analyzed in the 1992 and 2012 Environmental Impact Statements. The Record of Decision for the 2012 EIS concluded that the decision made in the ROD are consistent with the forest wide and management specific requirements of the Gallatin National Forest Land and Resources Management Plan. The issuance of the MPDES discharge permit was discussed and considered in this analysis.
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?	[N] Issuance (renewal) of the discharge permit will not affect the access or quality of recreational or wilderness activities.
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?	[N] Issuance (renewal) of the discharge permit would not add to the population or require additional housing.
19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?	[N]
20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?	[N]
21. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	[N]
22(a). PRIVATE PROPERTY IMPACTS: Are we regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants of financial assistance, and the exercise of the power of eminent domain are not within this category.) If not, no further analysis is required.	[N]
22(b). PRIVATE PROPERTY IMPACTS: Is the agency proposing to deny the application or condition the approval in a way that restricts the use of the regulated person's private property? If not, no further analysis is required.	[N]

IMPACTS ON THE HUMAN ENVIRONMENT	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
22(c). PRIVATE PROPERTY IMPACTS: If the answer to 21(b) is affirmative, does the agency have legal discretion to impose or not impose the proposed restriction or discretion as to how the restriction will be imposed? If not, no further analysis is required. If so, the agency must determine if there are alternatives that would reduce, minimize or eliminate the restriction on the use of private property, and analyze such alternatives. The agency must disclose the potential costs of identified restrictions.	[N]

23. **Description of and Impacts of other Alternatives Considered:** None

24. **Summary of Magnitude and Significance of Potential Impact:** None

25. **Cumulative Effects:** None

26. **Preferred Action Alternative and Rationale:** The preferred action is to issue (renew) MPDES permit no.MT0026808 to SMC. The effluent limitations and other conditions, including monitoring and reporting requirements in the MPDES permit implement technology-based controls on the discharge of pollutants required by the federal Clean Water and state water quality standards including nondegradation requirements in 75-5-303, MCA, Montana's Nondegradation Policy.

**Recommendation for Further Environmental Analysis:**

☐ EIS      ☐ More Detailed EA      ☒ No Further Analysis

**Rationale for Recommendation:** An EIS is not required for the MPDES permit under the Montana Environmental Policy Act because the action to issue (renew) the MPDES lacks significant adverse effects to the human and physical environment. All of the anticipated effects to the physical and human environment will be mitigated or eliminated during the project implementation.

27. **Public Involvement:** The DEQ will provide for a 30-day public comment period on the draft permit, fact sheet and environmental assessment.

28. **Persons and agencies consulted in the preparation of this analysis:** None

**EA Checklist Prepared By:**

EA prepared by Tom Reid, September 9, 2013, updated by Christine Weaver, July 2015.

**Approved by:**

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Jon Kenning, Chief  
Water Protection Bureau

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Date